

probe having specificity for a species specific or genus specific nucleotide.

Brief Description of the Drawings

Fig. 1 is an illustration of the organization of ribosomal RNA operons on the *E. coli* Chromosome. Each line marks the relative position of one of the seven rrn operons found on the *E. coli* chromosome.

Fig. 2 is an illustration of the internal organization of a ribosomal RNA Operon.

Fig. 3 is a flow diagram of a hybridization strategy to separate *E. coli* from Shigella and to separately identify Shigella species. The strategy shown in Fig. 3 has been used to first separately determine whether a sample is *E. coli* or Shigella and then, if Shigella, determine which of the four species it is.--

Page 11, after the fourth paragraph, please insert the following paragraph:

--Kits containing probe molecules capable of detecting the presence of species specific or genus specific nucleotides in the test sample are part of the invention. A test kit may include nucleic acid molecules having a nucleotide sequence of Seq. ID Nos 1-4. --

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Please delete all the text which appears on page 18.

IN THE CLAIMS

Please amend claims 19, 26, 28-29 and 46-47 as follows:

19. (Currently Three Times Amended) A method for discriminating between species of Shigella and *E. coli* or for discriminating among species of Shigella and *E. coli* in a sample containing organisms of one or more taxonomic groups comprising:

- a. selecting an oligonucleotide having a sequence from a DNA or RNA operon, wherein the sequence differs by one or more bases from at least one of the operons from the two or more species being discriminated, and wherein the oligonucleotide discriminates between species after hybridization by the use of two or more wash temperatures, at least one of which is above the oligonucleotide's calculated T_m ;